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Socio-Cultural Influences on Attention in Elementary School Children. Final Report.

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Five experiments (conducted in 1968 on observing responses and vigilance, reward preferences, and learning strategies in concept formation) indicate that socioeconomic level (SEL) has an influence on intellectual and educational functioning of elementary school children. Expectation of reinforcement was tested in experiment 1, using 60 kindergartners. Low SEL children rapidly stopped making observing responses when an expected event did not occur, while high SEL children maintained a significant rate of observing responses. In experiment 2, 32 second graders and 24 fourth graders were tested to investigate left-right directional preference. Fourth graders and high SEL second graders performed with more directional responses than did low SEL second graders. Reward preferences and reinforcement were investigated in 60 kindergartners in experiment 3. Low SEL children had significantly greater preference for consistency than high SEL children. Experiment 5 tested 60 first graders and indicated that the chaotic reinforcement variable alone produces deterioration of performance. Comparatively, low SEL children failed to observe environmental stimuli not previously conditioned to learned responses. Further research on behavior strategies is recommended. Present academic curriculum is inappropriate for the facilitation of learning in low SEL children. (DO)

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Socio-Cultural Influences on Attention in Elementary School Children

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Emory University

Atlanta, Georgia.

June 1, 1968

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This final report represents the efforts of a research team during the past year. It is presented in this form to provide the reader with information about the total research program during the course of the year and is intended to be useful to those who wish to apply these findings in their work with educating young children. No single report could serve maximally a diverse group of readers. For the researcher who is specifically interested in replicating these results or in related research, the authors would be happy to provide as much specific and detailed information as is available concerning specific questions. The research program included in this report encountered technical and methodological problems which would be expected for the beginning phase of research in a relatively new area. In light of these unforseen considerations, some digression from the original proposal proved to be most efficient and expeditious.

In reporting the total program of research we gratefully

acknowledge joint funding for some aspects of the report. All of the work of Mr. William Blum described on pages 11 and 12 (Experiment 5), and a small portion of the work of Miss Sandra Ivey (Experiment 4) was supported through Contract No. 2-6-06707-2127 from the Office of Education, "Program for Increasing Educational Research at Emory University", administered through the Division of Teacher Education, Emory University.

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Summary

Five studies are reported which deal with three principal topics: 1) observing responses and vigilance, 2) reward preferences, and 3) learning strategies in concept formation. The major findings include: 1) low SEL children have a lower resistance to extinction than high SEL children on an observing response task when their expectations are not confirmed. Older children (4th graders) have a more developed left-to-right directional preference than young children (2nd grade), with high 2nd grade SEL children being able to be trained to adopt this directional scan more readily than low 2nd grade SEL children. 2) Low SEL children have a greater preference for consistent reinforcement and are more bound by just previous events than are high SEL children. High SEL children show a response pattern more consistent with the long term occurrence of events. 3) Low SEL children do not adopt a win-stay lose-shift strategy on concept formation when the more obvious dimension is partially reinforced. Chaotic reinforcement prior to a concept formation task results in high SEL Ss adopting the typical low SEL strategy.

All of these differences between the high and low SEL children are fundamental to the way in which they observe the world and their general strategies of life in general, and learning in particular. The general finding is that low SEL children are perseverative and rigid in their instrumental responses, but perhaps even more important, they are deficient in their observing responses. If these findings are reliable, it is obvious that the regular academic curriculum in the public schools for low SEL children is inappropriate. Low SEL children must learn to observe stimuli before they are required to make complex responses to them. They must have more immediate rewards rather than be expected to perform effectively for long range rewards.

Introduction

Both in experimental studies and in actual school-room situations, children of a lower socio-economic level (SEL) have been found to perform many tasks less successfully than children of a higher SEL. Socially and economically disadvantaged children have a high proportion of school failures, school drop-outs, reading and learning disabilities, as well as personal adjustment problems. As citizens these children are poorly equipped academically; the school, as a major institution for socialization, has to a great extent declined in meeting the needs of these youngsters. The effect of the school's shortcoming is underscored by the fact that this segment of the population contributes disproportionately to the presently rising delinquency and other social deviancy statistics. Children of low SEL who are poorly prepared for grade school and/or for whom the current curriculum is inappropriately designed experience daily and repeated failures that serve to decrease their motivation for learning in academic settings. This motivational decrement also serves to increase the likelihood that some other sets of behaviors and activities which serve to protect the integrity of the self-esteem of these children will be reinforced. Avoidance of the learning situation that arouses the threat of failure is one inevitable consequence, along with some substitutive behavior such as: daydreaming, acting out, or absenteeism. Downward spiraling of both intellectual and educational functioning results and often progresses.

The literature concerning the effects of SEL on learning is far too extensive to cite, but a comprehensive review can be found in a recent issue of the Review of Educational Research (1965) devoted exclusively to the topic "Socially Disadvantaged Children". This review emphasizes that in spite of the voluminous material accumulated on the socially deprived child, there is a dearth of studies that attack the basic problems in learning.

It is apparent both from observations and from data that there are distinct qualitative differences in the environment or stimulus situations for children from different SEL groups which differentially prepare them for the learning process and the behavioral requirements of the classroom (Deutsch, 1963). Low SEL families are likely to be large with little opportunity for individuation in a setting which is most often restricted to the immediate surroundings and few if any excursions to the

"outside" world. The home environment of low SEL children is typically noisy, disorderly, and poorly supervised. It lacks many of the items associated with the development of learning skills such as: books, toys, puzzles, pencils, crayons, magazines, and records. The relationships between the parents and their children are described by Maas (1951) as closed and rigid. The low SEL parents are inaccessible to their childrens' communications, as contrasted with the high SEL parents who constantly interact with their children and from a very early age encourage questions (McCarthy, 1954). The environment of the lower SEL children is much less verbal; they are read to less, spoken to less, and receive more physical punishment than children from a higher SEL. Low SEL parents are more likely to react to a child's misbehavior in terms of the immediate consequences of the action, whereas high SEL parents tend to respond more in terms of the child's intent. The low SEL parents are less consistent and more authoritarian in their disciplining of children. By the time children enter school many patterns of behavior are established and there already is a long history of different reinforcements for different kinds of behavior between the socio-economic levels.

Although lower SEL children do more poorly than high SEL children in typical school and experimental situations, it cannot be concluded exactly how they are inferior in ability, or if indeed they are. Many differences have been found between the SEL groups in the development of cognitive functions. The low SEL children are considered deficient in reading, number concepts, time concepts, auditory discrimination, visual discrimination, symbolic representation (e.g., Deutsch, 1963; Montague, 1965; Riessman, 1964). Their intellectual functioning has been described as more concrete and inflexible than more privileged children (McCandless, 1952). Up to the present the tendency has been to depict and enumerate these behaviors in terms of their deviance from middle class norms, but some writers (e.g., Gordon, 1965) are now giving increasing attention to those characteristics of low SEL children that have different and more positive implications. It is recognized that children have different "cognitive styles" (Riessman, 1964) and motivational needs. To a great extent these differences in both style and motivational patterns are shaped by different histories of past reinforcements. For instance, it can be argued that socially disadvantaged children have not had past reinforcement of those behaviors which would permit them to be sufficiently attentive to learn profitably and effectively

in the school situation. These youngsters have infrequent exposure to preschool and/or kindergarten, little opportunity and encouragement to read, write, paint, draw, scribble, or play quietly and for long periods of time by themselves. They are more likely to be free to wander without supervision, to be free to flit from one activity to another, to have few restraints or restrictions placed upon their behavior, and in short, to have experience reinforcement for those behaviors which are characterized by: short attention span, aimlessness, disorderly or inconsistent response patterns, restlessness, and motor activities. In contrast, socially advantaged children have had reinforcement for behaviors which are characterized by: restraint, self-control, attentiveness, goal-directed orientation and consistency of response patterns. The differences in both stimulus situations and past reinforcements, it is conjectured here, makes for the differential performance of these groups of children in the schoolroom.

In order to increase precision and to achieve a greater specification of the variables involved in this general progrem we could restate the previously noted environmental and performance differences between the two SEL groups in terms of the usual behavior acquisition model: discriminative stimulus (SD)------observing response (RO)------instrumental-identification response (R)------reinforcing stimulus (SR). Accordingly, it can be said that the low SEL children as compared to the high SEL children tend to have fewer presentations of school-related discriminative stimuli throughout their pre-school years. They also tend to have fewer presentations of reinforcing stimuli, and their reinforcement schedule tends to be more variable. It can also be said that the actual reinforcing stimuli employed tend to differ for the two groups, but we shall not consider this detail in this report. Fewer presentations of school-related discriminative stimuli leads to fewer opportunities to make either an observing or instrumental response. Under these circumstances the child not only fails to learn the correct identifications of the stimulus but he also fails to acquire an observing response to it. We also know that fewer presentations of school-related discriminative stimuli means less opportunity for both observing and instrumental responses to be reinforced. Again, it would be expected that the low SEL child is not only poorer in his ability to identify and respond correctly to school-related discriminative stimuli, but also that he is poorer than the high SEL child in his ability to attend to these stimuli.

We know from the experimental literature, particularly from animal studies (Antonitis, 1950) that the more variable the reinforcement schedule the less well differentiated are both the instrumental and observing responses. Since the low SEL children tend to have more variable reinforcement schedules than the high SEL children, we would expect that they will show less differentiation (or more inconsistency) in their observing and instrumental responses. In a related pilot study, Knopf and Mabel (1966) investigated response consistency in 20 second-grade white middle SEL children, half of whom were "good readers" and half "poor readers". Utilizing the principle derived from Antonitis' work they argued that "good and poor readers" have had differences in the variability of their prior reinforcement schedules with regard to visual scanning. The more variable the reinforcement schedule in reading acquisition the more inconsistent should the response pattern be to visual scanning. Their results supported this hypothesis in that the "good readers" had and maintained a consistent mode of responding whereas the "poor readers" in contrast showed a low degree of response consistency. In a completed study, Bresnahan (1966) investigated concept acquisition strategies using 98 first-grade girls, one-half from a high SEL and one-half from a low SEL. The data indicated that the low SEL Ss perseverated on a dimension high on their response hierarchy under partial reinforcement, whereas the high SEL Ss adopted the "win-stay lose-shift" strategy typically found in concept acquisition studies with adults. This result was demonstrated by a statistical analysis of the trial to trial pattern of responses. Low SEL children responded to only the more obvious of the stimulus dimensions, while high SEL children responded to the various stimulus dimensions until a solution was found. Finally a child's history of reinforcement serves to affect the effectiveness of subsequent reinforcements, because it is well established that the amount of actual response strengthening is a function of the contrast between the reinforcing stimulus and previous reinforcement (Ferster & Skinner, 1957; Crespi, 1942). We would expect differences between the two SEL groups in reward preferences, reward strength for a number of the same reinforcing stimuli, and the effects of immediate and delayed reinforcement.

Our overall research strategy was developed from the foregoing analysis in which five experiments were designed to provide data in the following three major areas:

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1) observing responses and vigilance, 2) reward preferences, and 3) learning strategies in concept formation. For ease of exposition each experiment will be described separately with its own method and results section before all of the findings are drawn together in a section entitled Conclusions and Recommendations. In this way it is hoped that the reader will be able to derive maximum clarity and benefit from each study and/or their collective implications.

Experiment 1

Method: The observing-response behavior (Holland, 1958, 1960; Wyckoff, 1952) of high and low socio-economic children in a vigilance task was investigated using three different variable-interval schedules of signal presentation. Low socio-economic level children were found to display either unusually low or unusually high rates of responding, but their observing responses showed less conformity to the presentation schedule than did the observing responses of high socio-economic level children. This pilot study was then redesigned into a full-scale investigation with the following procedure. Instead of using the length of the variable-interval schedule as the independent variable, as was done in the pilot study, the expectation of reinforcement was the independent variable. Each key press resulted in either the presentation of a happy face or no stimulus at all on a panel in front of the subject; the happy face was presented on a variable-interval schedule. The independent variable of expectation of reinforcement was manipulated either by instructions to the subject or by past reinforcement. In the instruction condition the children were told that a face would appear sometimes on the panel when they pressed the key, but in fact no face ever appeared. In the past reinforcement conditions for manipulating expectation, all presses in the first 5, 10, or 15 minutes were followed by a face and all subsequent presses after this period were not. Sixty subjects were used in these conditions.

Results: It was found that low socioeconomic children of kindergarten age very rapidly stopped making observing responses when the expected event did not appear. High socioeconomic children maintained a significant rate of observing responses, even when their expectation of the event was not met. The absolute rate of occurrence of an event does not appear to affect the two groups differentially. In distinguishing between high and low socioeconomic children, the important variable, therefore, appears to be a contrast effect, or in other words, a deviation from expectation.

Experiment 2

Few investigations have focused on directional preference as a relevant developmental variable associated with early educational success. Yet, the academic curriculum, which is largely dependent on the written word, is

organized and ordered from the outset on a left-to-right horizontal axis. Consequently, children who have an established left-to-right directional preference in responding to visual stimuli presented horizontally should, other things being equal, have less difficulty learning written material than children who have either an inconsistent pattern or a right-left directional pattern.

This study was designed to investigate directional preference by establishing a technique for measurement of the directional response and by applying this technique to see if there were any intergroup differences between 2nd and 4th grade males from high and low socioeconomic backgrounds. The effects of verbal instructions on directional preference was also examined to determine whether such instructions and practice under these instructions would be effective in enhancing a left-right directional response pattern.

Method: Sixty-four white males, 32 attending 2nd grade and 24 from the 4th grade were selected from elementary schools in Cobb County, Georgia. Half of each grade level came from low SEL homes, and half from high SEL homes. The apparatus consisted of a Kodak Carousel projector fitted with a shutter operated by a solenoid hooked to a Hunter Timer to control exposure time. E operated the projector from in front of a translucent plexiglass screen (30 X 30 X 1/4") set in a heavy wooden base and fastened to a table by clamps. E was seated so that S's back was to him and S was between the screen and himself. E was in full view of S's responses. On the front of the screen was a square grid constructed from adhesive backed magnetic tape of about 1/4" width. The grid was composed of 25 squares, 5 on a side. The sides of each square were 2-1/2" Opaque cardboard was glued on the screen surrounding the grid to prevent any light from falling outside the grid during the projection. Twenty slides which were positives of a series of five pictures were horizontally arranged. The 5 pictures on each slide were chosen from a pool of ten and ordered so that each picture appeared in each of the five slots twice and not in conjunction with the same other pictures. The ten pictures were pen and ink line drawings of an elephant, train engine, fish, airplane, bird, tree, sailboat, automobile, rabbit, and house. The slides were projected from behind the screen so that the row of pictures fell, one per square, onto the middle horizontal row of the grid. In front of the screen was placed a slanted wooden tray on which was placed 10 bl cks each having on its face one of the 10 pictures which

appeared in the slides. On the back of the block was glued metal strips so that it could stick to the magnetic screen-grid.

Ss were given the Peabody Picture Vocabulary Test just before the experiment was run. Half of each grade level-SEL group served as controls and the other half as experimental Ss. Both experimental and control groups first saw a series of 10 slides with free instructions (no instructions essentially) and then each group saw a second and different series of 10 slides with another set of instructions. S was shown the equipment and given a demonstration of the apparatus with a vertical row of pictures. S was informed that the pictures he was to see would be in the middle horizontal row and just as soon as he saw the pictures he was to try to cover as many of the illuminated pictures with the matching blocks in front of him. S was required to use one hand only and he was allowed to start to respond as soon as the pictures appeared on the screen as well as afterwards. When the free response series was completed, the experimental Ss were told to look at the pictures from left to right, while the controls were given the initial free response instructions. The response measure was whether or not S makes his initial placement on the fartherest left position and made his next two placements in a left-to-right direction without reversals. S received a score of one for each such response sequence.

Results: An analysis of the data shows that 4th graders tended to perform with more directional responses than do 2nd graders. This is in line with the hypothesis that 4th graders would give more directional responses because of a longer exposure to a directional environment. However, socioeconomic class appears to be significant only in an interaction which indicates that 2nd grade, high socioeconomic subjects responded with directional responses when they were instructed to do so than did the noninstructed controls or the instructed 2nd grade, low socioeconomic subjects.

Experiment 3

Method: A large study investigating reward preferences and reinforcement effects in 60 high and low socioeconomic children of kindergarten age has been completed. Children were presented with two response keys, each of which produced an average of one peanut for every key press. Using

a discrete trial procedure the subject was given free choice trials on which he could choose either key. These trials were interspersed with forced trials on which only one key was available, so that each subject actually pressed the two keys an equal number of times, i.e., had equal experience on the two schedules. For Group 1, on one of the keys each press resulted in exactly one peanut; on the second key a press resulted in two peanuts one-half of the time and no peanuts one-half of the time. For Group 2, on one of the keys each press resulted in exactly one peanut; on the second key a press resulted in four peanuts one-fourth of the time and no peanuts three-fourths of the time. For Group 3, on one of the keys a press resulted in two peanuts one-half of the time and no peanuts one-half of the time; on the second key a press resulted in four peanuts one-fourth of the time and no peanuts three-fourths of the time. The assignment of the keys was counter-balanced across subjects.

Results: The results are exceedingly clear and straight-forward. All children prefer the more consistent of their two keys, but the low socioeconomic children have a significantly greater preference for consistency than the high socioeconomic children. Not independent of this finding, but demonstrated by a more detailed analysis of the data, the choice of key on any one trial is signficantly more determined by the occurrence of reinforcement on the just previous trial for the low socioeconomic children. The choice of a low socioeconomic child is highly predictable from the overall pattern of events during the task.

Experiment 4

Method: To further explore response strategies a concept formation study has been completed with 64 children, 5-1/2 to 6-1/2 years of age, all of whom were enrolled in Head Start, Cobb County, Georgia, and had met Head Start's economic criteria for eligibility. Performance was measured under four different tasks and one condition of reinforcement. One-fourth of the subjects were white boys, one-fourth white girls, one-fourth Negro boys, and one-fourth Negro girls. During acquisition two plastic buttons of the variety commonly used for clothing were presented on each of 60 trials. For one-fourth of the subjects the larger button was always correct, with the number of holes and color systematically counter-balanced (control size task). For one-fourth of the subjects the button with the larger number of holes was always correct, with size and color systematically counter-balanced (control number task). For one-fourth of the subjects the larger button was always correct, color was counter-balanced, and on one-half of the

trials the number of holes was a reliable cue; that is, the larger button also had a larger number of holes on one-half of the trials, and the same number of holes on the other half of the trials (correlated size task). For one-fourth of the subjects the button with the larger number of holes was always correct, color was counter-balanced, and on one-half of the trials size was a reliable cue; that is, the button with the larger number of holes also was the larger in size on one-half of the trials and was the same size on the other half of the trials (correlated number task). The 16 subjects in each of the four task groups included four subjects from each of the race - sex subgroups. A correct response was reinforced by a lighted happy face and a bell, and an incorrect response was indicated by a lighted sad face and a buzzer. A correction procedure was used in which the subject was instructed to make the correct response after an incorrect response on any trial.

Results. An analysis of variance showed that there were significantly fewer errors on the size task than on the number task. There were significantly fewer errors on those trials for which size and number were correlated, than on those trials for which size and number were uncorrelated. The difference in number of errors between correlated and uncorrelated trials was greater in the number task than in the size task. The discrepancy between number of errors on correlated and uncorrelated trials was greater for the experimental group, for which the size and number dimensions were systematically related, than for the control group. For the control group the dimensions were independent, but the corresponding trials for the experimental and control groups were used for the comparison. The interaction reflects the fact that subjects attempting to solve the number task under the experimental condition respond on the basis of size, although this dimension is a relevant cue on only one-half of the trials. Therefore, again it can be concluded that low socioeconomic subjects do not adopt a win-stay lose-shift strategy, but perseverate on a more obvious dimension under partial reinforcement conditions.

Experiment 5

Method: A study was designed using 60 subjects from the first grade in Cobb County, Georgia, to investigate the effects of chaotic reinforcement histories upon concept formation. It had been hypothesized that low SEL children perform more poorly on concept formation problems

because of their inconsistent reinforcement histories. They fail to adopt a win-stay lose-shift strategy. This study was designed to see whether the introduction of chaotic reinforcement into the histories of high SEL children would also lead to a failure on their part to adopt this strategy. The subjects were seated in front of a console on which two figures of two different colors were presented on each trial. A correction procedure was used and the subject's task was to press the key in front of the illuminated figure which he guessed was correct. Each correct response was rewarded with a penny. The 30 subjects in each SEL group were divided into three subgroups of 10 subjects each. One-third of the subjects began immediately on the concept-formation task in which the triangle was always reinforced. One-third of the subjects had six trials on which the triangle and circle were randomly reinforced prior to the beginning of concept formation. One-third of the subjects had twelve trials on which triangle and circle were randomly reinforced prior to the beginning of concept formation. One-third of the subjects had twelve trials on which triangle and circle were randomly reinforced (Levine, 1962) prior to the beginning of concept formation. The red or green color and the positions of the circle and the triangle were never relevant stimuli. All subjects were run at least 42 trials. If a criterion of 12 correct responses in succession was not reached within the first 42 trials, the run was continued until the criterion was reached, up to a maximum of 120 trials.

Results: The results are very striking. With no prior random reinforcement the high SEL subjects are significantly superior to the low SEL subjects both in terms of the number of trials to criterion and in terms of the number of errors in the first 42 trials. With six or twelve random reinforcements the high SEL subjects become progressively more similar to the low SEL subjects in performance. There are almost identical results from the high SEL subjects run under 12 prior random reinforcements and the low SEL subjects run under 12 prior random reinforcements.

Although the experiment does not prove that the chaotic reinforcement history of the low SEL subjects is the variable which leads to their ineffectual performance on a concept formation task, the experiment does demonstrate that this variable alone is sufficient to produce a complete deterioration of performance. The behavior of the high SEL groups, after random reinforcement, deteriorated to the same level as the behavior of the corresponding low SEL groups. A random or chaotic reinforcement schedule for as few as six or twelve trials was sufficient to produce this effect within the experimental situation.

Conclusions and Recommendations

The results of the five experiments can be discussed most effectively in their totality. Low SEL children extinguish more readily than high SEL children when their expectations are not confirmed. High SEL children have a more consistent pattern of attentional responses and show a response pattern more consistent with the long-term occurrence of events and rewards. High SEL children reject hypotheses which do not lead to perfect solutions, while low SEL children tend to perseverate on imperfect solutions. It is our hypothesis that these differences are very basic and fundamental. They involve the way in which an individual takes in the world around him, how he observes, and his general strategy of life. The hypotheses are broad and perhaps even diffuse; the specific experiments derived from the hypotheses are precise and definable. For example, it has been demonstrated that the experimental introduction of chaotic and unpredictable reward contingencies produces behavior in the high SEL children comparable to that of the low SEL children.

Our own results also have shown that low SEL children are not always inferior to high SEL children in their criterion responses. In fact, it appears that one can enumerate the conditions under which the two SEL groups would vary and the direction of the difference. The critical phenomenon seems to be that low SEL children are more rigid in their criterion responding. Stated in more precise experimental language, low SEL children perseverate (have very high resistance to extinction) for criterion responses. Our data also show that low SEL children make significantly fewer observing responses than high SEL children when their expectations are not confirmed. Thus the low SEL children, it is hypothesized, tend to perseverate on previously learned responses and fail to observe the environmental stimuli not previously learned responses and fail to observe the environmental stimuli not previously conditioned to those responses. If these hypotheses are true, the implications are very serious for the acquisition of new behaviors for these children.

It is felt very strongly that there is a great need for precise, detailed, normative information on the behavior strategies. Previous work by others has primarily been designed to determine how well the groups perform on a particular task. We have begun to determine the underlying strategies, orientations or problem sets which people bring to new learning situations or to their environments in general.

From these normative data it will be possible to obtain the necessary information for the later manipulation of additional variables. The ultimate goal is not simply to be able to describe the learning strategies of the groups and the differences between the groups, but to be able to manipulate variables. The goal is to determine the underlying conditions which generate these behavior styles. It is only through direct manipulation in experimental studies that one can construct a general theoretical framework or model to predict the best combinations of interventions for each age group. The objective is to develop a conceptual framework or model for the altering of behavior strategies of the low SEL subjects. The information necessary for the generation of a general model to predict successful remedial intervention through specific actions at each specific age must be produced. The problem is first to determine the differences, secondly, to determine the training or modifications of environment that are necessary to overcome these differences, and thirdly to determine the age or sequence of modifications which would be most efficient and effective.

Although this broad general conceptual framework is ultimately required, it may be possible to develop smaller scale models dealing with specific differences as the opportunities arise. It is, of course, difficult to predict at what point in time one will be prepared to go out into the community and try to implement a specific program, but one must be prepared to do such work whenever, and as soon as, specific instances or occasions arise. It must be emphasized that given our experimental findings to date, the regular academic curriculum in the public schools is inappropriate for the facilitation of learning in low SEL children. They are required to learn responses to stimuli before they have learned to observe stimuli; they are expected to work effectively for long range rewards when they work best for immediate rewards. The curriculum is predicated upon certain response strategies and life styles which these children do not have. We attempt to force the child into the rigid mold of the curriculum rather than to develop a program which accepts the behavior style of the child as a prerequisite condition. The modification of behavior through an academic curriculum must begin with the existing behavior.

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RETRIEVAL TERMS

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602 Children
603 Concept Formation
604 Vigilance
605 Socioeconomic Level
606 Reward Preference

IDENTIFIERS

607

ABSTRACT

800
801 Five studies are reported which deal with three principal topics:
802 1) observing responses and vigilance, 2) reward preferences, and 3)
803 learning strategies in concept formation. The major findings include:
804 1) low SEL children have a lower resistance to extinction than high
805 SEL children on an observing response task when their expectations are
806 not confirmed. Older children (4th. graders) have a more developed
807 left-to-right directional preference than young children (2nd. grade),
808 with high 2nd. grade SEL children being able to be trained to adopt
809 this directional scan more readily than low 2nd. grade SEL children.
810 2) Low SEL children have a greater preference for consistent reinforce-
811 ment and are more bound by just previous events than are high SEL
812 children. High SEL children show a response pattern more consistent with
813 the long term occurrence of events. 3) Low SEL children do not adopt
814 a win-stay lose-shift strategy on concept formation when the more obvious
815 dimension is partially reinforced. Chaotic reinforcement prior to a
816 concept formation task results in high SEL Ss adopting the typical low
817 SEL strategy.
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